

Applicants : Anne Marie Schmidt, et al.
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REMARKS

Claims 17, 19, 20, 34 and 35 are pending in the subject application. Claim 34 has been cancelled. Claims 17, 19 and 35 have been amended. Support for the amendment to claim 17 can be found in the specification at, *inter alia*, page 11, lines 30-33. Claim 19 has been amended to introduce a grammatical change. Applicants maintain that the amendments to claims 17, 19 and 35 do not raise any issue of new matter. Accordingly, claims 17, 19, 20 and 35 will be pending in the subject application upon entry of this Amendment.

Rejections Under 35 U.S.C. §102(b)

The Examiner rejected claims 17, 19, 20 and 34 under 35 U.S.C. §102(b) as allegedly anticipated by Gehlsen et al (J. Cell Biol. 106:925-30, 1988) ("Gehlsen").

In response to the Examiner's rejection of claim 34, but without conceding the correctness thereof, applicants point out that this claim has been canceled, thereby rendering the rejection thereof moot.

Further, applicants respectfully traverse the rejection of claims 17, 19 and 20.

Claims 17, 19 and 20, as amended, provide a method for evaluating the ability of an agent to inhibit tumor cell spreading which comprises: (a) admixing with cell culture media an effective amount of an agent known to inhibit the interaction between a tumor cell

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and an extracellular matrix molecule *selected from the group consisting of an amphoterin, a cadherin, an integrin or a hyaluronic acid*, wherein the agent is selected from a group consisting of a peptide, a peptidomimetic, a nucleic acid, a synthetic organic molecule, an inorganic molecule, a carbohydrate, a lipid, or a fragment of an antibody; (b) contacting a tumor cell in cell culture with media from step (a); (c) determining the amount of spreading of the tumor cell in the cell culture; and (d) comparing the amount of spreading of the tumor cell determined in step (c) with the amount determined in the absence of the agent, thus evaluating the ability of the agent to inhibit tumor cell spreading.

For a reference to anticipate the instant invention, it would have to teach *all the elements thereof*.

Gehlsen fails to teach each and every element of the claimed method. Specifically, Gehlsen fails to teach the step of "admixing with cell culture media an effective amount of an agent known to inhibit the interaction between a tumor cell and an extracellular matrix molecule *selected from the group consisting of an amphoterin, a cadherin, an integrin or a hyaluronic acid*." Gehlsen only teaches that synthetic peptides containing the arginine-glycine-aspartic acid amino acid sequence which are known to inhibit tumor cell interactions with *fibronectin* and *type-1 collagen* inhibit the penetration of two human melanoma cell lines and a glioblastoma cell line through the human amniotic basement membrane and its underlying stroma. Gehlsen fails to teach any agent known to inhibit the interaction between a tumor cell and an amphoterin, a cadherin, and integrin or a hyaluronic acid. The

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Examiner has not clearly set forth how this reference teaches *each and every step* of the claimed method. Accordingly, applicants maintain that Gehlsen fails to anticipate the claimed invention.

In view of the above remarks, applicants maintain that claims 17, 19 and 20 satisfy the requirements of 35 U.S.C. §102(b).

Rejection under 35 U.S.C. §103(a)

The Examiner rejected claim 35 under 35 U.S.C. §103(a) as allegedly obvious over Gehlsen in view of Seftor et al (PNAS 89:1557-1561, 1992) ("Seftor").

Applicants respectfully traverse the rejection of claim 35. In order to find the subject application obvious over Gehlsen in view of Seftor, the prior art references, in combination, must teach or suggest all the elements thereof, and create both a motive to combine and a reasonable expectation of success. Gehlsen and Seftor fail to do this.

Claim 35, as amended, provides the limitation to claim 17, discussed above, that the integrin is an $\alpha V\beta V$ integrin, an $\alpha V\beta III$ integrin, or an $\alpha I\beta II$ integrin.

The Examiner asserts that Gehlsen teaches a method of evaluating the ability of an agent to inhibit tumor cell spreading by inhibiting the interaction between tumor cells and the extracellular matrix proteins: laminen, type IV collagen, fibronectin and vitronectin. The Examiner also asserts that Seftor teaches a method for evaluating the ability of an agent to inhibit

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tumor invasion by modulating the $\alpha V\beta 3$ integrin. The Examiner then asserts that it would have been obvious for one of ordinary skill in the art at the time that the instant invention was made to modify the invention of Gehlsen by evaluating the ability of an agent to inhibit the interaction between tumor cells and an integrin in view of Seftor.

The Examiner has in no way shown how Gehlsen in view of Seftor teach or suggest applicants' invention, as now claimed. That is, the references, according to the Examiner, individually teach (a) identification of agents that inhibit tumor cell spreading by inhibiting the interaction between tumor cells and certain extracellular matrix molecules, none of which is recited in the claims, and (b) identification of agents that inhibit tumor invasion by modulating the $\alpha V\beta 3$ integrin. In no way does the sum of these independent teachings demonstrate that an agent will inhibit tumor cell spreading if it inhibits the interaction between tumor cells and an integrin, an amphoterin, a cadherin or a hyaluronic acid.

Accordingly, applicants maintain that claim 35 is not obvious over Gehlsen in view of Seftor, and therefore satisfies the requirements of 35 U.S.C. §103(a).

Summary

For the reasons set forth hereinabove, applicants respectfully request that the pending claims of this application be allowed.

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If a telephone interview would be of assistance in advancing prosecution of the subject application, applicants' undersigned attorneys invite the Examiner to telephone them at the number provided below.

No fee is deemed necessary in connection with the filing of this Amendment. However, if any fee is required, authorization is hereby given to charge the amount of such fee to Deposit Account No. 03-3125.

Respectfully submitted,

I hereby certify that this correspondence is being deposited this date with the U.S. Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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